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ORIGINAL

SAUGET AREA 2 SUPERFUND SITE
PUBLIC MEETING

SAUGET VILLAGE HALL
2897 FALLING SPRINGS ROAD
SAUGET, ILLINOIS

MONDAY, JUNE 24, 2002
7:00 P.M.

Recorded by:
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MR. JOYCE: Hi, I'm Mike Joyce, community involvement coordinator for the U.S. EPA, Region 5. I'm filling in for another community involvement coordinator, Stuart Hill, who is called away.

As you know, we are going to have a little presentation about the proposed plan tonight, and after that there will be some time for verbal comments. We'll give you some instructions later. We'll need your name and address. If you can please state your name clearly and spell your name. Also you can provide written comments tonight or by mail in these fact sheets. There are plenty here on the table. There is an insert with comments that can be folded and mailed back to us in Chicago.

So without further adieu, our remedial project manager, Mike Ribordy, is going to give a Power Point presentation about the remediation or the, I guess, interim remediation.

MR. RIBORDY: Hi, everyone. Thank you for coming out tonight. The primary purpose of this meeting is to discuss the Sauget Area 2 groundwater strategy.

Earlier last week we mailed out a fax

sheet, which is our proposed plan. If you are on our mailing list, you should have received one in the mail. Essentially, the proposed plan identifies U.S. EPA's preferred alternative to address discharge of contaminated groundwater into the Mississippi River.

Let me just quickly go over -- This is Sauget Area 2. It's west of Sauget Area 1, which is up in this area. Site R is right here. Site O, Site P, Site S, and Site Q is this large area, makeup Sauget Area 2. There is a fairly large groundwater route film that's approximately in the vicinity of Site R, which is what we are at this time talking about addressing. Once again, O, P, Q, R, and S, which are primary disposal areas, makeup Area 2.

It's approximately 312 acres surrounded by approximately Route 3, Cargill, and the MacArthur bridge railroad tracks. Most of Site 2, and I think all of Site R, is in the boundaries of Sauget. Parts are in East St. Louis, which is primarily P, and Cahokia, which is just the very southern extent of Area Q.

This is just briefly what each disposal areas are. Site O is formally four lagoons.

They've been sludged and stabilized within them, and it's been covered at this time.

P is an old landfill that's accepted municipal and industrial waste.

Site Q is another landfill with several disposal areas. There's been a couple U.S. EPA removal actions within this area. One in 1995, which removed drums exposed at the riverbank. And then in 1999 and 2000, there was another drum, soil removal at the southern end of Area Q.

Site R, which is the primary area that we are talking about today, was an industrial landfill that accepted waste from Monsanto between 1957 and 1977, contains hazardous and non-hazardous, both liquid and solid chemical waste. Cover was put on in 1979. Riprap was installed along the bank. There's --

(Short break was taken.)

Site R, clay cover was put in place in 1979. In 1992 pursuant to order with the State of Illinois, an investigation was conducted involving sampling around Site R. And then just recently, groundwater sampling was conducted in 2000, which showed the presence of contamination. Not to say that there was not previous evidence

of contamination in that area based on early investigations, but that was the most recent sampling event.

Finally, Site S, small disposal area supposedly steel bottoms from Clayton Chemical Property.

Why the project is needed? What are the real problems we are trying to address? Based on the groundwater data collected in January and May of 2000 maximum total VOC, volatile organic carbide, compounds, I mean, and semi-volatile organic compounds had concentrations of approximately 74,000 micrograms per liter, which is parts per billion, and 6,760,000 micrograms per liter of SVOCs.

These are relatively fairly high concentrations of contaminated groundwater discharged into the Mississippi River. This discharge groundwater exceeds what's IEPA criteria, and also IEPA's clean groundwater cleanup criteria. The estimated mass loading, which is the amount of contamination going into the river, is estimated at approximately 484,000 pounds per year, which comes out to approximately 1,300 pounds per day, which is quite significant.

These are the various contaminates found at Site R. Primarily VOCs and SVOCs. Hard to see, but the bold ones come up later, are ones that were primarily found in sediments, which is the benzene, chlorobenzene for the VOCs. Aniline, chloroaniline, 1-4 dichlorobenzene are the main ones found in the sediments.

A review of historical data for Sites O, Q, R, and S in current data indicates the groundwater contamination is at least partly due to the migration of leachate or liquid waste from those disposal sites previously mentioned, and also from the Krummrich Plant. Other potential sources include possible groundwater contamination for Site -- Area 1, and potentially other industrial facilities in the area.

U.S. EPA did collect sediment data in October of 2000, and this data did show that sediment is contaminated with significant concentrations of volatile organic compounds and SVOCs starting at the northern edge of Site R, and continuing along to the southern edge of Site R.

And as previously mentioned, the five most frequently detected contaminates found by

U.S. EPA in Mississippi River sediment is chlorobenzene, 4 chloroaniline, benzene aniline, and 1-4 dichlorobenzene.

Pursuant to the State of Illinois AOC back in '94, a human health risk assessment was conducted. The potential carcinogenic risks to on-site workers and area residents was within acceptable risk ranges. For noncarcinogenic hazardous, those were also within acceptable risk ranges. Part of the reason why, is people typically don't come into contact with the groundwater here. It's not a source of drinking water in this area. Area 2 and Site R in particular is primarily industrial area. Site R is fenced. It's capped. It has very little opportunity to come in to any kind of direct contact. There doesn't appear to be an impact downstream to drinking water. I guess the nearest public drinking water intake is approximately sixty miles down river in Chester, Illinois.

Ecological risk, which is pretty much the driver for this action. In June 2001 a Baseline Ecological Risk Assessment was prepared for surface water and sediment in the Mississippi

River in the vicinity of Site R. The October through November 2000 surface water, sediment and fish tissue samples were collected as part of the Baseline Ecological Risk Assessment. The Risk Assessment identified fish species at risk from exposure to sediment, fish prey at risk from exposure to surface water, and a number of compounds found in sediment, surface water and fish tissue that were not found in reference areas. Which are, I guess, kind of call them background. So in some groundwater contamination, the vicinity of Site R is discharging to the Mississippi River and impacted river sediments.

So U.S. EPA became aware of this earlier data. It was actually conducted despite of the Krummrich facility, RICRA facility investigation. It was decided between the RICRA folks and Superfund people that probably the best place to address this groundwater contamination problem would be in Area 2.

So U.S. EPA requested that the Sauget Area 2 performing party prepare what we call a Focused Feasibility Study, which is a study particularly to address the groundwater

contamination at Site R. Revised draft Focused Feasibility Study on interim groundwater remedy submitted to U.S. EPA on March 31, 2002. And as the primary objective of this interim cleanup is to protect the Mississippi River from adverse impacts due to discharge of contaminated groundwater. The Focused Feasibility Study presents a detailed evaluation of remedial alternatives for interim groundwater cleanup.

There were three alternatives studied. The first alternative was a no action alternative, which is required by law that this is kind of like the baseline. The second alternative, Alternative B, involved the physical barrier. This was essentially a thirty-five foot long jet grout barrier wall. It's an impermeable wall along three sides of Site R. Behind this wall or on the upgrade side of the wall there is three extraction wells, which to extract the contaminated groundwater.

The groundwater will be -- is proposed to be routed to American Bottoms Regional Treatment Facility via subsurface pipeline. The pipeline will connect with the Village of Sauget trunk sewer leading to the PChem plant. For the

discharge to go to the American Bottoms Wastewater Treatment plant, the extract water -- Solutia, who is actually doing this action, will need to get a pretreatment permit from them. They are in the process of doing that, and that has not be obtained at this time.

Several types of monitoring will be done to monitor the effectiveness of this remedy. One of them is groundwater quality monitoring, which is just groundwater sampling downgrade -- outside the barrier wall, between the barrier wall and Mississippi River. Groundwater level monitoring, you try to maintain the same groundwater level between inside the wall and outside the wall so that groundwater is not migrating across the wall. There isn't a grading across.

And then there's going to be sediment and surface water monitoring for the river, which is going to be -- samples will be collected in the plume discharge area to determine the effect of contaminates migrating through or past the barrier wall. There will also be an institutional control component of this remedy, which is essentially posting signs, possibly a

public education program.

Alternative C, is a hydraulic barrier. It's very similar to Alternative B, but it does not have the engineered barrier wall, and instead you'll just be pumping the groundwater. You probably have to maintain extraction levels probably twice as high as with Alternative B. And it's similar monitoring as Alternative B.

This is just a quick breakdown. Alternative A, no action. Alternative B, physical barrier. Alternative C, strictly hydraulic barrier. The estimated cost for the Alternative A is approximately zero dollars. Alternative B, these are the capital costs, which is essentially the cost it will take to construct the remedy, is approximately six million eight hundred thousand. And Alternative C is approximately five hundred thousand.

Estimated operation and maintenance of these remedies over about a thirty-year period is approximately twenty million for Alternative B, and approximately fifty million for Alternative C because you are pumping probably twice as much water out as Alternative B.

So estimated present worth cost for the

entire remedy over thirty years at -- using today's dollars is approximately twenty-six million for Alternative B, fifty million for Alternative C. They both pretty much -- Alternative B would probably take slightly longer to implement than Alternative C.

U.S. EPA uses nine criteria to evaluate the alternatives. These are -- The first one is overall protection of human health and environment. Obviously, the most important one. The other one is compliance with applicable or relevant and appropriate requirements, which is any selected remedy has to be in compliance with State and Federal laws. Long-term effectiveness and permanence, reduction in toxicity, mobility or volume through treatment, short-term effectiveness, impenetrability, cost, state support, and community acceptance.

This is really hard to see, but this table's in the fact sheet. It kind of goes through each one of those criteria. It evaluates how well each alternative meets these criteria. Alternative A, which is no action essentially drops out immediately because it doesn't provide overall protection of human health and

environment.

Compliance with applicable laws and regulations, Both Alternative B and Alternative C should fully meet these requirements. Since this interim action, and I might have failed to mention that earlier, this is not the final remedy -- groundwater remedy for Area 2. It's just considered interim action to address one known groundwater problem in this area. And because of that -- we will probably have an interim action regulation sheet -- you can waive contaminant ARARs because essentially we wouldn't be setting cleanup levels at this time, and that's all that does.

Long-term effectiveness, table says they both partially meet. As long as these systems are operated correctly, they should fully meet our objectives of minimizing or mitigating contaminated groundwater going to the Mississippi River.

Reduction of toxicity, mobility and volume through treatment, both B and C fully meet that requirement because groundwater will be treated.

Short-term effectiveness, probably C is

slightly ahead of B on that account just because you are not putting an engineer barrier wall, which has its complications.

Impenetrability, they both are using traditional technologies and should be able to be implemented.

Then cost, Alternative C is approximately twice as much as Alternative B.

Preferred alternative, U.S. EPA preferred alternative for groundwater discharge to the Mississippi River in the vicinity of Site R is Alternative B. We think the overall remedy is probably more protective than C. It's easier to monitor. It's easier to ensure performance, and it's far more cheaper.

The public comment for this started June 17th, which I think was a week ago Monday. It goes through July 17, 2002. There's administrative record, which includes the feasibility study, which goes into far more detail on all these alternatives evaluated and provides a lot more background information in this area. It is in the Cahokia Library and also at Region 5 offices in Chicago.

At this time, just to kind of give you

a better handle on what this preferred alternative looks like, and a little more technical information on this, I'm going to invite Richard Williams from Solutia to talk briefly and to go over in a little more detail what the U.S. EPA's preferred alternative is.

MR. WILLIAMS: Good evening. My name is Richard Williams. I'm the Solutia project manager for the Sauget area sites, and if I can just operate this here for a moment. I just have a very few slides here that -- and I just want to take a very few minutes to tell you a little bit about some of the details of the project that we are proposing.

As Mr. Ribordy said, back about fall of last year the EPA approached a number of companies here in the area and asked them to look at alternatives for addressing the impacts of contaminated groundwater discharging into the river. Solutia volunteered to prepare that study, and completed a feasibility study into those alternatives.

Those alternatives included the proposed remedy they we're discussing here tonight. The remedy basically consists of a

barrier wall, a U-shaped barrier wall which will be constructed around Site R. The wall is 3,500 feet long, which about 2,000 feet runs parallel to the river. There will be two arms. Each one about 750 feet long. That brings it almost back to the levee, which runs right along here. This aerial photograph was taken about two or three years ago, so it's fairly recent.

In addition to that, we will be installing at least three groundwater extraction wells. And the need for those wells, I'll get into in a little bit.

The wall will be constructed so that it sits atop bedrock, which this site is about 140 feet deep. The wall is -- will be made of cement and bentonite, which will be mixed together with the insitu soils, the soils that are in the ground now. And the processes by which that will be done, is a process that's called jet grouting.

I do have this slight schematic which illustrates the jet grouting process. First thing that we do, we are going to drill a pilot hole, like a standard -- your trenching boring. Will be, I don't know, about six to eight inches in diameter. That will go down to the top of the

bedrock, which I said is about 140 feet deep. We will then pump a grout mixture of cement and bentonite through the drill stem at fairly high pressures. About three, perhaps four thousand pounds per square inch. That grout will exit through a small hole at the end of the drill stem there, and you can -- I don't know if you can see it, but in this photograph there is a port here that the grout will exit through that.

The rod will be rotated, and as it spins the jet will basically chop soil up. It will cut it into very small pieces, and it will mix it with cement and bentonite in that same process. The rod will slowly be withdrawn, and as it is pulled up it leaves behind a cylinder, which in this case will be somewhere between two and three diameters. That cylinder will consist of mixed soil, cement, and bentonite. It's called soil crete.

The properties of it are such that it has had high strength, but more importantly for this application, it will greatly reduce the permeability of the natural soils. In essence, it will reduce the ability for groundwater to flow through the soil. It will be a reasonably

impermeable barrier that we will be creating.

That process will be repeated a number of times until you have overlapping cylinders. And those overlapping cylinders are going to create a wall, the barrier wall that we keep talking about. Because the wall has very low permeability, as I said groundwater flow through the wall is going to be very small. If we did nothing, the groundwater would backup behind the wall in the same way that you build a dam across a river. The water backs up behind the river. That water level will rise behind the dam until ultimately it will either overflow the wall, flow over the top of the wall, or it will flow around the wall. And so we lose any benefit of having a wall in place.

To avoid that, we are going to install groundwater extraction wells behind the wall, and we are going to pump water from those wells at a rate which will make sure that the water level inside the wall is the same as the water outside of the wall. By doing that, we will prevent any rise in water level within the containment, and it will ensure that whatever water is coming into the system, we will be removing that water.

We've done an extensive amount of modeling and analysis of the system, and we designed the system such that we will be pumping approximately 535 gallons per minute on average from behind the wall. That will ensure that we have -- that no head differential or no water level difference across the wall.

That water will be -- At this point in time, we have a permit application -- as Mr. Ribordy said, the proposal is to discharge that water to the American Bottoms Water Treatment Plant. We have a permit application into the treatment plant to discharge that water. The water will have to be treated to satisfy the State discharge standards, and that's -- at this time that's our intention.

When the wall is done, it will not be visible from the ground surface since it's going to be entirely below grade. And I would emphasize that the technology that we are proposing here is proven technology. It's been used in a number of walls both into Europe as well as North America. It's been very successful at creating barriers to groundwater flow. There are at least two or three other walls that are as

deep that have been constructed in the United States. So it's proven technology that we are proposing to use here.

I think that's about all I have at this point. As I say, I've tried to keep it very short. I'll be happy to answer any questions that you folks may have during the question and answer period, as well as at the end of the meeting. We have a number of display boards. I'd be happy to spend time with you answering any specific questions you may have.

Let me turn it back over to Mr. Ribordy at this point.

MR. RIBORDY: Thank you, Richard. Let me start all over again. Today --

I would never do that to you. As I mentioned before, next step, comment period ends July 17, 2002. You can get any kind of information you probably want in the Cahokia Library. We will answer public comments that are submitted either tonight during the question and answer session or written comments in a document called the response summary, which is issued along with the ROD, which is the record of decision, which is the EPA's final decision for

this action.

The ROD will be placed in the administrative record for public review when the decision is made. Work could begin this fall. Obviously, we consider this a serious problem that needs to be addressed, and we really would like to get this done as quickly as possible.

Construction is expected to take approximately a year. In the meantime, we are beginning what's called remedial investigation, which is sampling investigation over all of Area 2. The sampling activities should be completed sometime around 2004. At that time we will be coming out with a final remedy for Area 2, which will include both the source areas and a final groundwater determination. Additional remedial actions or cleanup items might be necessary.

For additional information you can either contact Stuart Hill -- And this -- all this information is in that fact sheet. If you have not picked one up, please do -- or myself, Mike Ribordy. There is our contact information. We are at this address, and there's a toll-free number. Feel free to call.

Now we are going to open up for a

question and answer period. Sorry. If you ask a question or comment, if you can please just stand up and state your name for the court reporter.

MR. TOWNSEND: My name is Tonie Townsend. I'm with the Village of Cahokia code enforcement department. If I may, I'd like to ask two questions. I'm a little confused over your evaluation table. In your description a little earlier, you stated that Alternative B and Alternative C over a thirty-year period that Alternative B would run just over twenty-six million dollars. In your chart here, it states annual cost of Alternative B would be just over twenty-six million, and Alternative C would be over fifty million.

Did I misinterpret that, the thirty-year cost for being a total of fifty million for Alternative C, or is this an annual cost?

MR. RIBORDY: That's over the thirty years. Let me just -- It's on the last page.

MR. TOWNSEND: I didn't know if I sneezed during that one. I have one other question.

MR. RIBORDY: This is incorrect. Over

the thirty years it will be fifty million, and over twenty-six million for the other one.

MR. TOWNSEND: That kind of confused me.

Now my other question would be since I represent the Village of Cahokia, along with the mayor, Ms. Reed, I have been with the Village for almost twenty-five years as the health officer at some point and now code enforcement, but I have seen the water table at an extreme high. Now years ago I have been told -- many years ago -- that Monsanto used to pump the groundwater and lower the water table by cooling some equipment they have in their plant, and that the EPA forced them to cease that type of operation therefore, raising the water table in Cahokia.

We have some very low-lying areas around Kinder, Edward, Angelo, streets of that nature. By taking this type of action here in these various sites, will that hopefully affect the Village of Cahokia and lower that water table because I'm -- that's kind of a new area for me, but I'm hoping that this will do that in Cahokia, too.

MR. RIBORDY: I don't believe the

influence of this remedy would reach that far back. I probably -- Richard Williams would be better qualified --

MR. WILLIAMS: No, it wouldn't reach that far back. No, it wouldn't have any impact on Cahokia.

MR. TOWNSEND: If you can put a few of them up there, I'd appreciate that. Thank you very much.

MR. FAUST: I think that was a rainy well system. This was in thousands, five, six thousand gallons. It was a major, major water production well. This wouldn't be anything near that magnitude that he's referring to, production wells.

Allan Faust with Solutia. That was what they call rainy well protection system that -- I don't remember when they discontinued that, but it was orders of magnitude larger than this.

MR. RIBORDY: Any other comments or questions? Thank you very much for coming -- yes, ma'am.

MS. TOLBARD: I don't know his last name, but anyhow Terry from EPA called me and said they were starting to take sampling over

there. Terry -- his last name starts with an "S".

MR. RIBORDY: Yes, I know --

MS. TOLBARD: He's been kind of keeping in touch with me. A couple times he's called me.

MR. RIBORDY: Right. Exactly.

MS. TOLBARD: Apparently they've already taken the sampling. The way he talked, it was going to be last Thursday, Friday and four days right in a row, and I had to sign a paper. I think they keep coming and doing it. I was just wondering, there hadn't been anything said here tonight about it. Is there plans to do this soon?

MR. RIBORDY: It hasn't been done, and it's totally unrelated to this. I'll talk to you about that afterwards, after this meeting because it really has nothing to do with this one.

I'll be glad to stay afterwards if you do have other issues, concerns, or questions about other Sauget Area 1 or Area 2 topics. I am project manager for both those sites; so feel free to come up to me after this meeting. I'll stick around as long as you need me.

Once again, thank you very much for

participating and coming out here. I want to emphasize if you have concerns, questions, or comments please get them in there. It's important from the agency's prospective that the community voices their -- either their approval or dissatisfaction, so we do encourage you to comment. Good night.

[Whereupon, the meeting was adjourned.]

COUNTY OF RANDOLPH)
SS.)
STATE OF ILLINOIS)

NOTARIAL CERTIFICATE

I, SHERRY L. GANTNER, Certified Shorthand Reporter and a duly commissioned Notary Public within and for the County of Randolph, State of Illinois, do hereby certify that there came before a Public Meeting concerning the Sauget Area 2 Superfund in Sauget, Illinois and said meeting was reduced to writing by me; and that this meeting is a true and correct record.

I further certify that I am neither attorney nor counsel for nor related nor employed by any of the parties to the action in which this meeting is taken; further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 12th day of July, 2002.

My commission expires December 1, 2003.

Sherry Gantner

[NOTARY PUBLIC]